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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,666	09/18/2003	Wen-Li Su	10011485-3	8981

7590 08/05/2004
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/666,666	SU ET AL.	
	Examiner	Art Unit	
	LAM S NGUYEN	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-28, 44-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27, 28, 44 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sensing amplifier coupled to the sensing target must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Bajoux et al. (US 5160939).

Bajoux et al. disclose a printing mechanism having a sensor (*FIG. 1, element 8*) configuration for use in detecting ink droplets ejected from an ink drop generator (*FIG. 1, elements 4, 6*), comprising:

Referring to claim 27:

a non-contact electrically biased sensing target (*FIG. 1, element 8*); and
a sensing amplifier (*FIG. 11, elements 13, 26*) coupled to the sensing

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target (*FIG. 11, element 8c*), whereby the sensing target is imparted with an electrical stimulus generated by a capacitive current related to a charge on an ink droplet (*Abstract, FIG. 3a-d, 5, and column 8, lines 15-40: The electronic measurement circuit 9 detects the current $I(t)$ flowing between detector 8e and ground induced by charged droplets G_c*).

Referring to claim 28: wherein the sensing target is further configured to receive a biasing voltage which creates an electric field from the sensing target to the ink drop generator (*FIG. 3a-d*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 27-28 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schantz et al. (US 6086190) in view of Bajeux et al. (US 5160939).

Schantz et al. disclose a printing mechanism, comprising:

a printhead having ink drop generators for selectively ejecting ink (*FIG. 1, element 10*); and

an ink drop sensor for detecting ink droplets ejected from the ink drop generators (*FIG. 1, element 14*) comprising an electrically biased sensing target and a sensing amplifier coupled to the sensing target (*FIG. 1, elements 14, 16*), wherein the sensing target is further configured to receive a biasing voltage which creates an electric field from the sensing target to the ink drop generator (*FIG. 1*).

However, Schantz et al. do not disclose wherein the electrically biased sensing target is non-contact sensing target, whereby the sensing target is imparted with an electrical stimulus generated by a capacitive current related to a charge on an ink droplet.

Bajeux et al. disclose an ink jet printer having a ink droplet sensing unit which is non-contact electrically biased (*FIG. 1, element 8*) coupled to a sensing amplifier (*FIG. 11, elements 13, 26*), whereby the ink droplet sensing unit is imparted with an electrical stimulus generated by a capacitive current related to a charge on an ink droplet entering the sensing unit (*Abstract, FIG. 3a-d, 5, and column 8, lines 15-40: The electronic measurement circuit 9 detects the current $I(t)$ flowing between detector 8e and ground induced by charged droplets Gc*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the sensing target disclosed by Schantz et al. such as replacing the contact sensing target by the non-contact sensing unit including two electrodes as a capacitor to sense the speed of the ink droplets moving in the gap between the electrodes as disclosed by Bajeux et al. The motivation of doing so is to be able to detect the speed of the ink droplets in order to regulate the ink quality as taught by Bajeux et al. (*Abstract and column 6, lines 1-6*).

Response to Arguments

Applicant's arguments with respect to claims 27-28, 44-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN
July 27, 2004


HAI PHAM
PRIMARY EXAMINER